EXHIBIT A

Marked-up Copy of Specification and Claims

Amendments to the Specification

Paragraph on Page 1, lines 5-10

FIELD OF THE INVENTION

The present invention relates to an electrical device for self-clocked controlled pseudo random noise (PN) sequence generation [and comprising a plurality of sequence generation means adapted to:

- output a plurality of sequence values (Z_t) on the basis of a plurality of clock values (C_t)].

Paragraph on page 1, lines 12-16:

BACKGROUND OF THE INVENTION

[The present invention also relates to a method of self-clock controlled pseudo random noise (PN) sequence generation comprising the steps of:

- outputting a plurality of sequence values (Z_t) on the basis of a plurality of clock values (C_t).]

Paragraph inserted on page 4, following the paragraph on lines 20-23:

SUMMARY OF THE INVENTION

Paragraph on page 5, lines 25-29:

If, [as stated in claim 2, said] the step pattern select signal (W_t) is derived on the basis of a combined value (U_t) and one or more previously derived step pattern select signals (W_{t-1}), a very simple and unpredictable way of deriving the step pattern select signal (W_t) is obtained.

Paragraph on page 5, line 34 to page 6, line 3:

In an alternative embodiment, [as stated in claim 3, said] the plurality of sequence generation means (201) is further adapted to output a plurality of step control values (u_t), and the combined value (U_t) is provided on the basis of [said] the plurality of step control values (u_t) and on the basis of a plurality of prior clock values (C_{t-1}).

Paragraph on page 6, lines 8-12:

A simple way of calculating a step pattern select signal (W_t) is obtained, if [, as stated in claim 4,] the number of [said] the plurality of possible step patterns is 6, and [said] the pattern select signal (W_t) is derived as: $U_t + W_{t-1}$ MOD 6.

Paragraph on page 6, lines 23-29:

Alternatively, [as stated in claim 5,] if the number of [said] the plurality of possible step patterns is 6, and [said] the pattern select signal (W_t) is derived as: $U_t + a_1 W_{t-1} + a_2 W_{t-2} + a_3 W_{t-3}$ MOD 6, where a_1, a_2 and a_3 are preselected constants, an even better, i.e., resulting in a more unpredictable output PN sequence, way of computing the pattern select signal (W_t) is obtained.

Paragraph on page 6, lines 31-36:

Alternatively, [as stated in claim 6,] if the number of [said] the plurality of possible step patterns is not a prime number, then [said] the pattern select signal (W_t) is derived on the basis of [said] the combined value (U_t) and [said] the previously derived step pattern select signals (W_{t-1}) using a Chinese remaindering technique.

Paragraph on page 7, lines 10-13:

This is obtained [, as stated in claim 7,] by choosing [said] the plurality of possible patterns to be: (0,0,1,1), (0,1,0,1), (1,0,0,1), (0,1,1,0), (1,0,1,0), (1,1,0,0).

Paragraph on page 7, lines 22-25:

In a preferred embodiment, [as stated in claim 8, said] the device further comprises a function generating means (203) adapted to calculate an output value (Out_t) as the sum of [said] the plurality of sequence values (z_t) MOD 2.

Paragraph on page 7, lines 27-29:

In a preferred embodiment, [as stated in claim 17, said] the plurality of sequence generation means are m-sequence generators.

Paragraph on page 9, lines 29-31:

This is obtained [, as stated in claim 9] when [said] the plurality of possible step patterns is: (0,0,1,1), (0,1,0,1), (1,0,0,1), (0,1,1,0), (1,0,1,0), (1,1,0,0).

Paragraph inserted on page 10, following the paragraph on lines 14-16:

BRIEF DESCRIPTION OF THE DRAWINGS

Paragraph inserted on page 11, following the paragraph on lines 8-10:

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Paragraph inserted on page 21, following the paragraph on lines 19-22:

Although various embodiments of the invention are described herein, it should be recognized that the invention may be varied in numerous ways. Accordingly, it should be understood that the invention should be limited only insofar as is required by the scope of the following claims.

Amendments to the Claims

1. (Amended) An electrical device for self-clocked controlled pseudo random noise (PN) sequence generation [and], comprising:

a plurality of sequence [generation means (201)] generator units [adapted to • output] for outputting a plurality of sequence values (Z_t) on the basis of a plurality of clock values (C_t), [characterized in that said electrical device further comprises: •] and

step pattern [generation means (202) adapted to select] generators for selecting a step pattern, comprising said plurality of clock values (C_t), from a plurality of possible step patterns on the basis of a step pattern select signal (W_t).

2. (Amended) An electrical device according to claim 1, [characterized in that] wherein said step pattern select signal (W_t) is derived on the basis of a combined value (U_t) and one or more previously derived step pattern select signals (W_{t-1}).

3. (Amended) An electrical device according to claim 2, [characterized in that] wherein

[●]said plurality of sequence [generation means (201)] generator units [is] further [adapted to output] outputs a plurality of step control values (u_t), and

[●] said combined value (U_t) is provided on the basis of said plurality of step control values (u_t) and on the basis of a plurality of prior clock values (C_{t-1}).

4. (Amended) An electrical device according to claim 2, [or 3, characterized in that] wherein the number of said plurality of possible step patterns is 6, and [in that] wherein said pattern select signal (W_t) is derived as: $U_t + W_{t-1}$ MOD 6.

5.(Amended) An electrical device according to claim 2, [or 3, characterized in that] wherein the number of said plurality of possible step patterns is 6, and [in that] wherein said pattern select signal (W_t) is derived as: $U_t + a_1 W_{t-1} + a_2 W_{t-2} + a_3 W_{t-3}$ MOD 6, where a_1, a_2, and a_3 are pre-selected constants.

6. (Amended) An electrical device according to claim 2, [or 3, characterized in that] wherein if the number of said plurality of possible step patterns is not a prime number, then said pattern select signal (W_t) is derived on the basis of said combined value (U_t) and said previously derived step pattern select signals (W_{t-1}) using a Chinese remaindering technique.

7. (Amended) An electrical device according to claim[s] 1, [-6, characterized in that] wherein said plurality of possible step patterns includes [is:] (0,0,1,1), (0,1,0,1), (1,0,0,1), (0,1,1,0), (1,0,1,0), (1,1,0,0).

8. (Amended) An electrical device according to claim[s] 1, [-7, characterized in that] wherein said device further comprises a function generating [means (203)] unit [adapted to calculate] unit for calculating an output value (Out_t) as the sum of said plurality of sequence values (Z_t) MOD 2.

9. (Amended) An electrical device according to claim[s] 1, [-8, characterized in that] wherein said plurality of sequence [generation means is] generator units comprise m-sequence generators.

10. (Amended) An electrical device according to claim 1, [any one of the previous claims, characterized in that] wherein said device is used in a mobile telephone.

11. (Amended) A method of self clock controlled pseudo random noise (PN) sequence generation, comprising the steps of:

[●] outputting a plurality of sequence values (Z_t) on the basis of a plurality of clock values (C_t), and

[characterized in that said method further comprises the step of: ●] selecting a step pattern, providing said plurality of clock values (C_t), from a plurality of possible step patterns on the basis of a step pattern select signal (W_t).

12. (Amended) A method according to claim 11, [characterized in that] wherein said step pattern select signal (W_t) is derived on the basis of a combined value (U_t) and one or more previously derived step pattern select signals (W_{t-1}).

13. (Amended) A method according to claim 12, [characterized in that ●] wherein a plurality of step control values (u_t) is output, and [●] wherein said combined value (U_t) is provided on the basis of said plurality of step control values (u_t) and on the basis of a plurality of prior clock values (C_{t-1}).

14. (Amended) A method according to claim 12 [or 13], [characterized in that] wherein the number of said plurality of possible step patterns is 6, and [in that] wherein said pattern select signal (W_t) is derived as: $U_t + W_{t-1}$ MOD 6.

15. (Amended) A method according to claim 12 [or 13], [characterized in that] wherein the number of said plurality of possible step patterns is 6, and [in that] wherein said pattern select signal (W_t) is derived as: $U_t + a_1 W_{t-1} + a_2 W_{t-2} + a_3 W_{t-3}$ MOD 6, where a_1, a_2, and a_3 are pre-selected constants.

16. (Amended) A method according to claim 12 [or 13], [characterized in that] wherein said pattern select signal (W_t) is derived on the basis of said combined value (U_t) and said previously derived step pattern select signals (W_{t-1}) using a Chinese remaindering technique, if the number of said plurality of possible step patterns is not a prime number.

17. (Amended) A method according to claim[s] 11 [-16, characterized in that], wherein said plurality of possible step patterns is: (0,0,1,1), (0,1,0,1), (1,0,0,1), (0,1,1,0), (1,0,1,0), (1,1,0,0).

18. (Amended) A method according to claim[s] 11 [-17, characterized in that], wherein said method further comprises the step of calculating a value (Out_t) as the sum of said plurality of sequence values (Z_t) MOD 2.

19. (Amended) A method according to claim[s] 11 [-18, characterized in that], wherein said plurality of sequence values (Z_t) is generated by a plurality of m-sequence generators.

20. (Amended) A method according to claim[s] 11 [-19, characterized in that], wherein said method is used in a mobile telephone.